



A new species of *Abacarus* (Acari: Prostigmata: Eriophyidae) damaging sugarcane, *Sacharrum officinarum* L., from Costa Rica—the first eriophyoid mite described with a tibial seta on leg II

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Abstract

A new species of eriophyoid mite, belonging in the genus *Abacarus* Keifer (Eriophyidae), causing damage to sugarcane, *Saccharum officinarum* L. (Poaceae), in Costa Rica is illustrated and described. *Abacarus doctus* n. sp. is the only eriophyoid species recorded so far with a tibial seta (*l'*) on the second pair of legs, an unexpected characteristic observed for the first time in the superfamily Eriophyoidea. Remarks on the phylogenetic and taxonomical aspects related to the presence of this seta are presented. Damage symptoms caused by this mite are presented as well as a key for *Abacarus* species described from sugarcane. In addition, the need to apply biosecurity procedures during sugarcane germplasm exchange to avoid dissemination of the new mite species is discussed.

Key words: Eriophyoidea, Phyllocoptini, *Saccharum officinarum* L., Poaceae, systematics, phylogeny, Central America, Neotropical, biosecurity

Introduction

Three valid species of the genus *Abacarus* Keifer 1944 have been reported infesting sugarcane, *Saccharum* spp. (Poaceae), all of them from the Eastern Hemisphere (Amrine Jr. 2003; Ozman-Sullivan *et al.* 2006). Although described from India, *Abacarus sacchari* Channabasavanna 1966 is the only species of the genus reported from sugarcane in Neotropical areas, being found in Brazil and on some Caribbean Islands (Amrine 2003, Flechtmann & Aranda 1970), localities where it is thought to be introduced. In this paper, a new species of *Abacarus* from sugarcane from Costa Rica is described and illustrated. This is the first species of this genus described from sugarcane from the Americas and not yet known elsewhere.

Surprisingly, when slide mounted specimens of the new species were examined in detail, a tibial seta (*l'*) on the dorsolateral position of leg II was clearly observed. No eriophyoid mite species have hitherto been recorded with a tibial seta (*l'*) on the second pair of legs. Such absence was, until now, considered usual for all Eriophyoidea. The phylogenetic and systematic aspects related to this unusual characteristic are discussed.

Material and methods

Specimens were collected directly from leaf samples under a dissecting stereomicroscope and stored in ethyl alcohol (70%). Mites were then slide-mounted in modified Berlese medium (Amrine & Manson 1996). Slide-mounted